

## PATENT ABSTRACTS OF JAPAN

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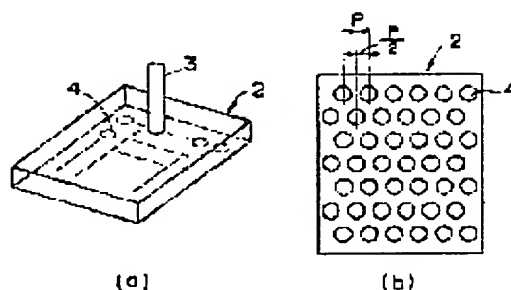
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## (54) FORMING METHOD OF ORIENTED FILM FOR LIQUID CRYSTAL DISPLAY ELEMENT

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a forming method of an oriented film for a liquid crystal display element so that an oriented film having uniform film thickness can be formed by arranging injection holes in such a manner that one line of injection holes is dislocated by a half pitch of nozzles from the adjacent line of injection holes.

**SOLUTION:** The ink jet nozzle 2 used is an area-type one to inject a soln. to form an oriented film. The diameter of the injection hole 4 is, for example, 50 $\mu$ m and the pitch (p) of injection holes 4 in one line is, for example, 100 $\mu$ m. One line of injection holes is arranged as dislocated by a half pitch (p/2) to the adjacent line. By this method, a problem of irregular thickness due to variation in overlap amt. of liquid drops is prevented compared to a conventional method in which a line-type ink jet nozzle is used and a coating liquid is applied by controlling the relative velocity between an ink jet nozzle and a substrate or the timing of coating.



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